

Amendments to the Claims:

Please amend claims 14-16, 19-21, 24-26, 34-36 and 47-49 as follows:

Listing of Claims:

14. (Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a pH level of the byproducts, and wherein the monitoring step comprises [The method of claim 1, further comprising] sensing the pH of the byproducts[.]; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

15. (Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a conductivity of the byproducts, and wherein the monitoring step comprises [The method of claim 1, further comprising] sensing the conductivity of the byproducts[.]; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

16. (Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a chemical composition of the byproducts, and wherein the monitoring step comprises [The method of claim 1, further comprising] determining the chemical composition of the byproducts[.]; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

19. (Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a pH level of the byproducts, wherein monitoring comprises [The method of claim 5, further comprising] sensing the pH of the byproducts[.]; and
stopping removal of material from the substrate when the pH is a predetermined value.

20. (Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a conductivity of the byproducts, wherein monitoring comprises [The method of claim 5, further comprising] sensing the conductivity of the byproducts[.]; and

stopping removal of material from the substrate when the conductivity reaches a predetermined value.

21. (Once Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a chemical composition of the byproducts, wherein monitoring comprises [The method of claim 5, further comprising] determining the chemical composition of the byproducts[.]; and

stopping removal of material from the substrate when the chemical composition reaches a predetermined value.

24. (Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a pH level of the byproducts, and wherein detecting comprises [The method of claim 7, further comprising] sensing the pH of the byproducts[.]; and

stopping the planarization process when the pH reaches a predetermined value.

25. (Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a conductivity level of the byproducts, and wherein detecting comprises [The method of claim 7, further comprising] sensing the conductivity of the byproducts[.]; and

stopping the planarization process when the conductivity reaches a predetermined value.

26. (Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a chemical composition of the byproducts, and wherein detecting comprises [The method of claim 7, further comprising] determining the chemical composition of the byproducts[.]; and

stopping the planarization process when the chemical composition reaches a predetermined value.

34. (Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic comprises [The method of claim 33 wherein the sensing step comprises] measuring a [temperature] pH level of a planarizing liquid flowing off of a polishing pad[.]; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

35. (Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a planarizing liquid flowing off of a polishing pad wherein the liquid is comprised of byproducts produced by polishing the substrate and the characteristic comprises [The method of claim 33 further comprising] sensing the pH of the byproducts[.] in the planarizing liquid flowing off of the polishing pad; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

36. (Once Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a planarizing liquid flowing off of a polishing pad wherein the liquid is comprised of byproducts produced by polishing the substrate and the characteristic comprises [The method of claim 33, further comprising] sensing the conductivity of the byproducts[.] in the planarizing liquid flowing off of the polishing pad; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

47. (Once Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a pH level of a polishing component that is in contact with byproducts produced by polishing the substrate, the pH level of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

[The method of claim 44, further comprising] sensing the pH of the byproducts[.]; and

stopping removal of material from the substrate when the pH level of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.

48. (Once Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a conductivity of a polishing component that is in contact with byproducts produced by polishing the substrate, the conductivity of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

[The method of claim 44, further comprising] sensing the conductivity of the byproducts[.]; and

stopping removal of material from the substrate when the conductivity of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.

49. (Once Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a chemical composition of a polishing component that is in contact with byproducts produced by polishing the substrate, the chemical composition of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

[The method of claim 44, further comprising] determining the chemical composition of the byproducts[.]; and

stopping removal of material from the substrate when the chemical composition of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.